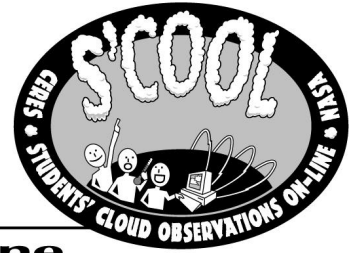




S'COOL BREEZE



Student's Cloud Observations On-Line

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2000 S'COOL SUMMER WORKSHOP

Please contact S'COOL for application and additional information, or visit our website.

NASA Langley Research Center will host the 2000 S'COOL Summer Workshop July 31 – August 4. Participants will be introduced to the S'COOL program and work co-operatively in developing new materials related to the project. Field trips and guest speakers are on the agenda for this exciting week. Some assistance will be offered for transportation, room and board for our long distance participants. Teachers in grades 3 – 9 may apply. The workshop will be limited to 20 teachers. Offer is available to the following states for 2000: Virginia, North Carolina, South Carolina, Kentucky and West Virginia.

Financial support:

- Stipend
- Some assistance for transportation, room and board for long distance commuters.

CERES Instruments Launch Aboard Terra

Chris Rink Office of Public Affairs, NASA, Langley Research Center, Hampton, Virginia.

Described by some as picture perfect, the Atlas launch vehicle lifted off from Vandenberg Air Force Base, California, at 1:57 p.m. EST, on December 18, 1999, near the end of its 25 minute launch window. And as the rockets safely steered the Terra spacecraft through upper-level winds, some Langley employees expressed relief and excitement.

The Terra mission will simultaneously study the Earth's clouds, water vapor, trace gases, land surface and oceanic properties, and how their interaction affects our planet's climate. Terra is a



Terra is launched December 18, 1999 from Vandenberg Air Force Base, California.

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joint Earth Observing System venture between the United States, Japan and Canada.

There are actually two CERES instruments on Terra: One will scan the Earth from the equator to a pole; the second angles in to cover the hemisphere radiation flow.

"With CERES on Terra we will be able to see the global picture of energy fluxes for the first time since ERBE in 1989," Langley's Bruce Wielicki said. "The other exciting aspect of the Terra mission is the ability to combine the CERES data on energy flows with simultaneous data on surface, atmosphere and cloud properties measured by other instruments aboard. This lets us start to unscramble the relationships between cloud properties and radiation energy flows on local as well as global scales.

"This new baby stays at the hospital for about a month of check-out," Wielicki said. "Already the two CERES instruments are turned on and the data indicates they are working perfectly. We wait about 30 days for outgassing of contaminant gases from the spacecraft launch and later orbital burns. So late February we will open the contamination covers and start observing the Earth. "

NASA's Goddard Space Flight Center manages Terra for NASA's Office of Earth Science . Goddard reports that the mission is going extremely well.

The above excerpt came from an article written for the Jan. 14, 2000 issue of "Researcher," Langley Research Center, Hampton, VA.

Teacher Corner

- ◀Do you have pictures or articles that you would like to share with S'COOL?
- ◀The June issue will feature student articles. Please submit your students' work for publication.
- ◀Check out the Message Board <http://asd-www.larc.nasa.gov/SCOOOL/connect.html>
- ◀S'COOL was featured in the October edition of NUBES in Argentina. The article was written by Noemi Cabrera, a S'COOL teacher. The article may be seen on the website.
- ◀Margaret Holtschlag, a S'COOL teacher from Haslett, Michigan, USA, has been named one of four finalists for national "Teacher of the Year." Congratulations, Margaret!

Teacher in Residence

Toano Middle School Teacher Works with the S'COOL Team for the School Year 1999-2000.

S'COOL has had a welcome addition to the team since September. Doug Stoddard, a teacher from Toano Middle School in James City County, Virginia, is serving as teacher in residence with the CERES' S'COOL Project. Doug has taught for eleven years, and is also Summer Science Program Coordinator. He and his wife Suzie have been blessed with four children. Doug is ready for most outdoor adventure activities and enjoys family camping.

While assisting in a number of areas Doug has taken on the task of updating our S'COOL web site and giving the introductory materials a facelift. Included in that material is a newly designed "Guide for Understanding the Overpass Schedule."

His year has been rewarding in many ways, but he says his favorite part so far has been interacting with the CERES Team, visiting schools and growing the program globally. Having Doug on board with his knack for creativity has been a much appreciated addition for all the S'COOL Team.



**S'COOL NOW HAS 438 SITES
ENROLLED IN 32 COUNTRIES**

TRY THIS

INVESTIGATION: SPF

Because ultraviolet radiation is damaging to skin, everyone should wear sunscreens. Fair-skinned people are most likely to be harmed, but dark-skinned people can also burn. How protective a sunscreen should you buy? These oils and lotions are rated by manufacturers by SPF, or sun protection factor. What does SPF mean? It means different things for different people, depending on the sensitivity of their skin. The SPF number on a sunscreen means that you can stay in the sun that many times longer than usual without burning.

For example, if you usually burn after one-half hour in the Sun, a sunscreen with an SPF of 4 would allow you to stay exposed to sunlight for 2 hours. If you burn after 15 minutes, you could extend your stay in the Sun to only 1 hour.

Calculate how long a person could stay in the Sun according to these SPF's. Multiply the length of time by the SPF factor to get the new time limit.

CAN STAY IN THE SUN WITHOUT BURNING	SPF	NEW LIMIT
15 minutes	4	—
	8	—
	10	—
	15	—
30 minutes	4	—
	8	—
	10	—
	15	—
1 hour	4	—
	8	—
	10	—
	15	—

(Taken from NASA's "Earth's Mysterious Atmosphere")



Terra Logo



A view of Terra as it appears down range following lift off on December 18, 1999. Terra carries on board CERES instruments which will begin transmitting earth data in March, 2000. As part of NASA's Earth Science Enterprise, scientists at Langley Research Center now have the task of analyzing data received from the CERES instruments aboard the Terra spacecraft.

News Bulletin

Remember to use Daylight Savings Time when it applies in your area.

Stickers will be mailed in May. Please let us know the number of students participating.

NASA Langley Research Center
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Mail Stop 420
Hampton, VA 23681-2199



Upcoming events

S'COOL Presentations at
TILT in Roanoke, Virginia, TTSC in
West Chester, Pennsylvania and NSTA,
Orlando, Florida, USA and IAF in
Alsace, France.

Aqua Launch, 2000

For more information contact us by:
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